

REMARKS

In the April 22, 2004 Action, the Examiner rejected claims 1-30 pending in the application. Accordingly, Applicant has amended the claims to address various informalities and provides the following remarks with respect to the Sections 102, 103 and 112 rejections set forth in the Office Action.

This Response amends claims 1, 2, 4, 6, 22, 25, cancels claims 5 and 26 without prejudice or disclaimer, and introduces new claim 31. After entry of the foregoing amendments, claims 1-4, 6-25, and 27-31 (3 independent claims; 29 total claims) remain pending in the application. In view of the foregoing remarks, reconsideration of the application is respectfully requested. No new subject matter is being added by this Amendment. Applicant respectfully requests allowance of the pending claims.

Claim Rejections

The Examiner has rejected claim 6 under 35 U.S.C. Section 112 stating that the subject matter fails to comply with the written description requirement. In particular, the Examiner states that the "seal test device" was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention, i.e., the "seal test device" is not described in the specification or drawings in full, clear or exact terms such that one of ordinary skill in the art would understand its structure, use or function of it in the claim system. Applicant respectfully traverses this rejection. Applicant submits that the seal test device is described with such specificity such that one skilled in the art would understand its structure, use or function in the claim system. In particular, seal test device is described in the specification in paragraphs [0061] and [0063] - [0066], *inter alia*, as any structure being configured to provide a compliance seal, e.g., a filter valve on an orifice, for the flow amplifier subsystem, that it may be configured to operate at low pressure, configured to receive and provide electrical signals, and can operate as a separate filter valve component, reside within filter valve 222, or even be replaced by filter valve 222 (see [0065]). Accordingly, Applicant respectfully submits that the "seal test device" is sufficiently described in accordance with § 112.

The Examiner has rejected claims 1, 9, 12-14, 16 and 18 under 35 U.S.C. Section 102(b) as being anticipated by Chriswell et al., U.S. Patent No. 5,808,188, issued September 15, 1998 (hereinafter "Chriswell"). In addition, claims 1, 9, 10, 12-4, and 16 stand rejected under 35 U.S.C. Section 102(b) as being anticipated by Zaim, U.S. Patent No. 5,081,164, issued January 21, 1992. Applicant respectfully traverses these rejections.

Chriswell discloses a flowbench and airflow measuring calibration procedure configured for comparing air flow characteristics of different unknown flow constrictions, under different atmospheric conditions. In particular, Chriswell discloses a pneumatic source 101 connected via pipe 119 and pipe 120 to a critical flow venturi nozzle 102 and eventually ending at a support structure 107 configured to allow the placement of a base orifice 122 as shown in Figure 3. The primary purpose of the flowbench of Chriswell is to obtain repeatable comparisons between different heads or pieces of equipment under different atmospheric conditions (see Summary of the Invention, column 2, line 40-53). Another primary purpose of the Chriswell design is to obtain such comparisons in different locations. In that instance, it is necessary for the same Chriswell flowbench to be present at the second location, or an identical flowbench with a mathematically and physically identical critical flow of venturi nozzle 102 to be at the second location, before Chriswell's flowbench can operate for its intended purpose (see Summary of the Invention, column 2, line 54 - column 3, line 4).

Applicant's amended claim 1 recites a flow testing system for facilitating the continuous flow testing of fluid flow systems and components, said flow testing system comprising a flow amplifier subsystem configured for coupling to an air intake and for providing a controlled air flow, a venturi subsystem configured for facilitating determination of said controlled air flow through providing of a pressure difference within, a piping subsystem configured for coupling said flow amplifier subsystem to said venturi subsystem to receive said controlled air flow, and an output coupling subsystem configured to couple said venturi subsystem to a fluid flow component to provide a forced air flow through the fluid flow component, and wherein said flow testing system determines flow within the fluid flow component at a single atmospheric condition to determine if any blockage exists within the fluid flow component.

Applicant's claim 1 is not anticipated in view of Chriswell because the Chriswell flowbench does not determine flow within a fluid flow component to determine if any blockage exists within the fluid flow component, but instead determines changes in flow between two different mechanical head devices to compare air flow characteristics of different unknown restrictions. More importantly, the Chriswell flowbench requires testing under two different atmospheric conditions, whereas the flow testing system of Applicant's claim 1 can determine if a blockage exists at a single atmospheric condition, i.e., it does not require the establishment of two different atmospheric conditions. Accordingly, Chriswell does not disclose, teach or suggest each and every element of Applicant's amended independent claim 1. Accordingly, Claim 1 (and claims 9, 12-14, 16 and 18, each of which variously depend from claim 1) is not anticipated by Chriswell.

Zaim generally discloses a system for detecting leaks in a fluid vessel. The purpose behind Zaim is to pressurize an annular space between the fluid vessel and a surrounding outer wall. The pressure in the annular space is maintained at a higher pressure than the fluid vessel, therefore a drop in the monitored pressure in the annular space indicates a leak in the fluid vessel. In contrast, Applicant's claim 1 determines flow within a fluid flow component to determine if any blockage exists within the fluid flow component. Among other elements, Zaim does not determine whether any blockage exists, but rather determines whether any leaks exist. Accordingly, Zaim does not disclose, teach or suggest each and every element of Applicant's amended independent claim 1 (or claims 9, 10, 12-14 and 16 which variously depend from claim 1).

In addition, various other claims are independently patentable over Chriswell and Zaim. For example, claim 6 recites "the flow testing system" according to claim 4, wherein said flow

amplifier subsystem comprises a flow amplifier configured for coupling to an air intake and for providing a controlled air flow, a seal test device configured to operate at a pressure between approximately 1-3 PSI and coupled to said flow amplifier and configured for providing a compliance seal to said flow amplifier to facilitate self-testing of said flow testing system, a proportional regulator configured to regulate operation of said seal test device, and a check valve coupled between said seal test device and said proportional regulator to prevent air from flowing from said seal test device back to said proportional regulator." Each and every element of claim 6 is not disclosed, taught or suggested by Zaim or Chriswell.

In addition, claim 16 is also independently distinguishable from Chriswell and Zaim. Claim 16 further recites "the flow testing system according to claim 1, wherein said output coupling subsystem system is configured for facilitating measurements of pressure differences between an entry side and an exit side of the fluid flow component." Chriswell or Zaim simply do not disclose, teach or suggest the measuring of pressure differences between the entry and exit side of a fluid flow component. Therefore, claim 16 is also independently allowable and not anticipated by Chriswell or Zaim.

Claims 2 and 3 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Zaim, U.S. Patent No. 5,081,846 ("Zaim") in view of Henry, U.S. Patent No. 6,715,343 B1 ("Henry"). The Examiner contends that Zaim discloses the claimed invention except for the use of a filter valve. Henry generally discloses a portable glove box apparatus and a self contained filter unit to prevent contamination within the glove box. In contrast to Henry, Applicant's dependent claim 2 further recites "the flow testing system according to claim 1, wherein said flow amplifier subsystem is coupled to the air intake through a filter valve to enhance laminar flow" as described in more detail in paragraph [0065]. Henry does not disclose such a filter

valve, but instead discloses a filter unit for a glove box. Moreover, Applicant's dependent claim 3 further recites "the flow testing system according to claim 2, wherein said filter valve is configured to provide a seal for said flow amplifier subsystem during self-testing of said flow testing system." Again, Henry simply fails to disclose or suggest such a filter valve configuration. Accordingly, without even addressing the unlikely combination of Zaim and Henry that clearly relate to two different technologies, each and every element of Applicant's claims 2 and 3 are also not disclosed, taught or suggested by Zaim and Henry.

Claims 4 and 5 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over either Chriswell or Zaim. In particular, the Examiner contends that it would have been obvious to one having ordinary skilled in the art at the time the invention was made to use the claimed flow ranges. Applicant respectfully disagrees. Applicant's amended claim 4 recites the flow testing system "according to claim 1, wherein said flow amplifier subsystem is configured to receive air from an air intake source of between approximately 80-100 PSI and a flow level between approximately 5-100 SCFM and convert air from the air intake source to a controlled air flow of between approximately 1-3 PSI and a flow level between approximately 75-1000 SCFM". Accordingly, the flow testing system of Applicant's claim 4 can receive a range of air flow and pressure as generally provided from factory, laboratory or other conventional compressed air sources, and convert the air to a lower pressure, higher flow level to facilitate efficient flow testing (see paragraphs [0031] - [0035]). Accordingly, Applicant submits that the disclosed ranges were not obvious to one skilled in the art, but were specially configured to facilitate testing with the other components of the flow testing system.

Claims 1, 4, 5, 7-9, 11-15, and 22-30 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Kral, U.S. patent No. 6,412,334 B1 ("Kral") in view of Chriswell. Kral

generally discloses a quick-connect, leak detection system, which is attached to an endoscope and pressurized to determine if any defects such as leaks exist within the endoscope. In contrast, Applicant's claim 1 determines flow within a fluid flow component to determine if any blockage exists within the fluid flow component. Thus, Applicant respectfully submits that, even if the proposed combination were made, the invention of claims 1, 4, 5, 7-9, 11-15 and 22-30 would not be obtained. For example, similar to Zaim, Kral is directed towards determining whether a leak exists by providing a pressure and noting any decreases in the pressure. More importantly, Applicant respectfully submits that the systems of Kral and Chriswell cannot be combined and yet operate for their own intended purposes, let alone operate for the purposes of Applicant's invention. In particular, the leak detection system of Kral for endoscopes could not be combined with the Chriswell flowbench calibration system configured to operate in different atmospheric conditions and different locations. Further, there is no teaching in either the Chriswell or Kral references that would suggest any such combination would even be desirable. Applicant respectfully submits such a combination would render Chriswell and Kral inoperable for their intended purposes. According, Kral and Chriswell in combination does not disclose, teach or suggest each and every element of amended claims 1 and 22 (and claims 4, 7-9, 11-15, 23-25 and 27-30, each of which variously depend from amended claims 1 or 22).

Claim 17 is rejected under 35 U.S.C. Section 103(a) as being unpatentable over Chriswell in view of Adkins, U.S. Patent No. 5,124,969 ("Adkins"). Adkins generally discloses an automated testing device for smoking articles. In particular, the Examiner contends that it would have been obvious to one having ordinary skill in the art to use the robot device of Adkins as an automatic object positioning system. Applicant respectfully disagrees. However, in the interest

of compact prosecution, for the reasons stated above with respect to Chriswell, the combination of Adkins and Chriswell does not teach each and every element of claim 17.

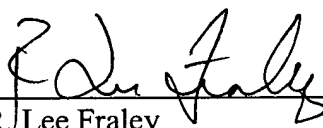
Finally, claims 19-21 stand rejected under 35 U.S.C. Section 103(a) as being unpatentable over Chriswell in view of Gotchel, U.S. Patent No. 4,311,037 ("Gotchel"). Applicant respectfully disagrees. However, again in the interest of compact prosecution, in that Chriswell does not teach or suggest each and every element of amended claim 1, from which claims 19 and 21 variously depend, the combination of Chriswell and Gotchel do not render obvious claims 19-21.

CONCLUSION

In view of the foregoing, Applicant respectfully submits that all the pending claims fully comply with 35 U.S.C. Sections 102, 103 and 112 and are allowable over the prior art of record. Reconsideration of the application and allowance of all pending claims is earnestly solicited. Should the Examiner wish to discuss any of the above in greater detail or deem that further amendments should be made to improve the form of the claims, then the Examiner is invited to telephone the undersigned at the Examiner's convenience.

Respectfully submitted,

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